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Tehuantepec and the Eads Ship Railway.

[From *Harpers' Monthly Magazine*.]

THE latest railroad maps of Mexico could hardly fail to excite the fears of Mexican patriotism if our neighbor republic had any fear of that Yankee invasion which is now going on. From the northern frontier no less than four lines of invasion, more or less advanced, pierce the interior. The Mexican Central company has its main or international line extending down from El Paso, while its interoceanic branches meet the Gulf at Tampico, and the Pacific at San Blas; the Palmer and Sullivan narrow gauge, or the Mexican National, invades the country from Laredo on the frontier, and Manzanillo on the sea. Eagle Pass, on the Rio Grande, is the starting point of an American road to Topolampam, on the Gulf of California. South of the city of Mexico the Grant concession occupies the territory from sea to sea, and guards the western coast from Anton Lizardo across to Accapulco, and thence to the southern limit of the republic.

Instead of dreading this invasion, however, the Mexicans welcome it as the harbinger of the new age of gold which is to succeed their brazen age of pronunciamiento and of civil war, and they have given the full measure of their enthusiastic approval to the daring scheme of the American engineer James Buchanan Eads, who proposes to make Mexico the highway of the world's east and west ocean commerce by taking up the ships, crews, cargoes, and all, and carrying them on railroad cars across the Isthmus of Tehuantepec.

The suggestion of a ship railroad dates back from the adventurous epoch and from the busy brain of Cortez. The "wild surmise" which held Balboa "silent upon a peak in Darien" very soon gave way to a depressing conviction that there was an obstacle in the way of Columbus's idea of reaching the East by way of the West, and Cortez was not content with merely conquering Mexico as long as anything remained beyond. He made a personal exploration of the Coatzacoalcas, the river of the isthmus, with a view of establishing a portage across the short path to the South Sea, for the rich commerce of Zipangu and far Cathay. Spain thought well of the project, and, after three hundred years of thinking, issued a decree in 1814 authorizing the attempt. But the revolution had already started, and prevented all further proceedings until 1842, when the republic granted a conces-

sion to Don Jose de Garay to build a railroad there. The Garay concession lapsed, although the government of the United States was prepared to pay fifteen millions of dollars for a right of way across the isthmus, and authorized the commissioners of the boundary treaty to offer that sum to Mexico. This too fell through, but after the gold discoveries of California our government kept its eye on the isthmus, and has since made two surveys for the purpose of determining the practicability of a canal. These surveys were made by General Barnard in 1851, and by Commodore Shufeldt in 1870; but it looks as if the isthmus was waiting for the ship railroad, for in the interval three successive concessions were made to Mexicans, and one to an American company, yet the Panama Canal, 1,200 miles further away from us, was begun before the Mexican government turned a willing ear to the idea of Eads.

The idea of Eads is that wherever a canal can be dug to float a ship, a railroad can be built to carry a ship; and strange and novel as the idea sounds upon its first mention, the most sober-minded and competent engineers of this country and of England declare that it is scientifically sound and quite practicable.

The ship to be transported across the isthmus is placed on its platform, car, or cradle, or dry-dock, or whatever one chooses to call it, resting on even keel and bilge blocks, and braced as if it had gone on the ways for repairs. The car is designed to move on twelve rails spaced the standard width and the wheels are placed as near together as their diameter will allow, or three feet from axle to axle. The tractive power is furnished by four locomotives, each with fivefold the capacity of an ordinary freight locomotive. The non-scientific mind begins to ask at once, How can the ship get there, how is she secured from bending or twisting strains while there, and how does the railroad meet the demands of the pressure on its road-bed, and of the grades and curves involved in a hundred miles of mountain location?

The ship gets on the railway very much as it gets on any other ways. The railway begins thirty feet below the surface of the harbor, in a land-locked basin. A slope of one in a hundred brings the railway down to thirty feet in depth at a distance of three thousand feet from the land terminus. The cradle is run down this incline to the depth at which the ship's keel rests on its bearing; the vessel is secured to the cradle and braced, and stationary en-

gines at the land end of the basin draw it to its level on *terra firma*.

The car is made of cross girders of plate iron, with each wheel bearing on an independent axle, and with its separate set of springs. A car three hundred feet in length, such as would carry a ship of four thousand tons, would have one hundred wheels on each rail, or twelve hundred wheels under each car. This would give a pressure of five tons on each wheel, which is not as great as is borne by the road-bed of an ordinary railroad. Any one who has traveled at the rate of forty miles an hour on the two rails of such a road as the Hudson River road, where the motion is hardly felt, will have no difficulty in believing that a vessel securely braced can be moved on an elastic cushion of twelve hundred springs, distributed across twelve rails, without any disturbance or strain, as long as the road is straight and level. In the ship railway, curves are out of the question, and a change of direction is made by a turning-table. The surveys of the road have shown that a maximum grade of fifty feet in the mile is easily obtainable. A cradle three hundred feet long would be exposed to a maximum flexure of six inches in its center in passing directly from a level to such a grade.

There is a popular delusion that a ship is so delicate that it would give way if any part of it were left unsupported. Lloyds' Rules, which are the basis of ocean insurance, require a sea-going vessel to be so strong that it would sustain no injury if supported on a single bearing across its center, or if suspended between two supports at its ends. A ship that cannot stand this without injury is not fit to go to sea, yet there is no room on the ship railway for any such strain as this.

While on the one hand the loaded ship is supposed to have so tremendous a weight as to crush in the road-bed, we are told that it is so light that it cannot stand the exposure of its surface to the wind. Ship captains have declared that the seams would dry and crack and open under exposure to the hot sun; to which the projector answers that he will transfer every ship from harbor to harbor within twelve hours, and if the ship's seams cannot stand that exposure, it is a sign that they need calking and tarring, for which the passage will furnish an opportunity. In fact, the conservative old salts look upon the audacious attempt to lift their craft out of the water and haul it across dry land very much as the old Shiver-my-timbers and Benbows of sailing three-deckers look-

ed upon the introduction of steam and of Monitors. But science has no sentiment, especially when pressed into the service of trade, and the testimony of science is to the effect that, spite of old salts and salt-water sentiments, ships will yet sail on dry land across the isthmuses of Tehuantepec and Corinth, across Florida, and over the Landes of Southern France, between Biscay and the Mediterranean.

The Tehuantepec project is already well advanced, and under circumstances that promise speedy success. The concession which the Mexican government gave to our fellow-countryman is the most liberal that any government ever gave to a private individual. Its importance to us consists in the fact that the charter permits the company to discriminate in favor of the commerce of any nation which aids in building the work.

The Isthmus of Tehuantepec becomes, in the light of its possibilities, one of the points of interest on the map. At its narrowest part it is 143 miles wide, from the bar of Coatzacoalcos on the north to the chain of natural harbors at the south end. The Coatzacoalcos River is a broad and deep stream, with twenty-five feet of water from the mouth to the town of Minatitlan—a sleepy, ragged, and tumble-down settlement thirty miles up. This is a port of some importance for the trade in mahogany and other precious woods. The whole Atlantic side of the isthmus is a low, marshy, unhealthy forest for fifty of sixty miles back from the coast. Below Minatitlan the tributary stream of the Uspanapa comes in from the south, and carries the deep channel twenty miles further inland to a bend where a conspicuous cottonwood-tree has given the name of "Ceiba Bonita" to the point where the work of the ship railway will begin. Here the land is so marshy that a canal of ten miles in length will probably need to be dredged out to the beginning of track-laying. The railway itself will run through a country of exuberant fertility, of beautiful scenery, and of healthful climate. The mountains present no especial obstacle, for at three different points the Sierra Madre lowers itself to an elevation of only 650 feet, as if bending to the yoke of commerce. These are the passes of Chivela, Tarifa, and Masagua, through one of which the road will run; and thence southward there is a choice of routes either to Salina Cruz, on a large lagoon, or by the town of Tehuantepec to the harbor of Ventosa, on the sea.

A corps of engineers, under the direction of Mr. J. J. Williams, and Captain Flores of the engineer corps of the Mexican army, are now on the isthmus completing the surveys on which the course of the road and the estimates of its cost were based. The choice of a best location for the road is a matter of more than usual importance, as Captain Eads estimates that his railway will cost half a million dollars a mile; the estimate of the total cost of the road, including equipment and harbor work, is placed at seventy-five millions; the period needed for its completion is not to exceed four or five years.

After leaving the fevers of the marsh-land the chief obstacle is the tropic luxuriance of vegetation, which here grows so rankly as to obstruct all passage. It is a land of tropic storms,

of six months of rain and six months of dry weather; its inhabitants are a few tribes of half-civilized Indians; its woods abound in every species of game; its soil has a capacity for every tropical cultivation. On the Pacific coast there is a wholly different climate, haciendas and villages diversify a landscape which opens out upon glorious views of the far-off Pacific, and peace and primitive prosperity mark it as a fit habitation for man. When the dream of Cortez is realized, and the portage is made, not for such light craft as he built on the lake of Tezcoco, but for the monster ships which now interchange the grain of California and the silks and teas of Cathay and Zipangu with the productions of civilized Europe, two statues should crown the summit of the pass—one of the great conquistador of the sixteenth century, and one of the modern American citizen whose genius has shown itself not less daring in the paths of peace.

St. Gothard Tunnel.

The St. Gothard Tunnel, which was opened on the 2d inst., is located on the line of the railway between Lake Maggiore, in Italy, and Lake Luzerne, in Switzerland, and passes under the Lepontine Alps. The undertaking was organized in 1871, under the authority of a treaty between Italy, Switzerland and Germany, who jointly contributed 85,000,000 francs to the construction company. The first estimate of cost was 187,000,000 francs, but this was increased to 289,000,000 francs by the discovery of an important error in calculation shortly after the work was commenced. The enterprise languished for a long time, but under an increase of capital and further government subventions it was revived and carried to completion. Louis Favre, of Geneva, was the contractor, and agreed to finish the work by October 1, 1880. About a year ago, however, the falling of an immense mass of loose rock greatly embarrassed and impeded the work. The completion of the tunnel will divert some of the commerce and travel of the south, which has hitherto passed by the way of the Mt. Cenis Tunnel into France, or through the Benner Pass into Austria, Switzerland and Germany, and this was the object for which it was built.

The Great Salt Lake.

Four barrels of water of the Great Salt Lake will leave, after evaporation, nearly a barrel of salt. The lake was discovered in the year 1820, and no outlet from it has yet been ascertained. Four or five large streams empty themselves into it, and the fact of its still retaining its saline properties seems to point to the conclusion that there exists some secret bed of saline deposit over which the waters flow, and that thus they continue salt—for, though the lake may be the residue of an immense sea which once covered the whole of this region, yet by its continuing so salt with the amount of fresh water poured into it daily, the idea of the existence of some such deposit from which it receives its supply seems to be only too probable. For the past fifteen years, until last year, the lake has been gradually rising; but in 1870 it receded two or three feet—

a most unusual occurrence—owing to the exceptionally warm weather. There are no fish in the lake, but myriads of small flies cover its surface. The buoyancy of the water is so great that it is not at all an easy matter to drown in it. The entire length of the Salt Lake is eighty-five miles, and its breadth forty-five miles.

The Pacific Railway Snow Sheds.

These wonderful wooden tunnels cover 40 miles of the Central Pacific Railroad. They were first suggested by its practical Vice President, Charles Crocker, but his companions hesitated through fear of their impracticability and expense. They are of two kinds, one with very steep roofs and the other with flat roofs. They cost per mile from \$8,000 to \$12,000, and in some places, where heavy masonry was needed, the cost reached \$30,000 a mile. They are firmly constructed to support the great weight of snow and resist the rush of avalanches. The precautions are very thorough. Corrugated plates of iron separate the buildings into sections, and in the great ten mile shed there are automatic electric fire alarms. At the summit is an engine and tank always ready to flood the ignited spot in an instant. These sheds shut in the view of the great Sierras; but without them winter travel would be impossible. Sometimes five feet of snow falls upon them in a day, and often thirty feet lie on the ground at one time, and in many places snow accumulates to the depth of fifty feet above these great wooded arches.—*Nashville American*.

Nero's Engineers.

Modern engineers think they have carried the art of surveying to very great perfection, but a good deal of it must have been known in ancient times. No road is so imperishable as a Roman road, which indicates that the engineers not only built well, but chose good routes, especially in their exemption from the action of floods. The Indian engineers seldom find that they can improve on the routes selected for ancient native canals or the sites chosen for huge tanks, and this week Colonel Turr quoted a still more striking instance. He has been surveying for the canal to be cut through the Isthmus of Corinth, and after a most careful examination of three alternative routes has decided that the one selected by the Emperor Nero's engineers is by far the best. Not to mention that it is shorter than all others, the "trace of Nero" terminates at each end in calm and deep water; and "another advantage of the Nero trace consists in the disposition of the slopes, which favors it, inasmuch as the canal would be then protected against the floods in the ravines along the slopes, while the other two lines would catch these waters." That shows scientific surveying; and it is to be noted that Nero's engineers, like Alexander's, had freed themselves from the singular superstition which so greatly influenced modern opinion, that the waters of two seas were never of the same height. This argument was actually thrown at M. de Lesseps as a serious one, not only against the Suez canal, but the Canal of Corinth.—*Spectator*.

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THE apprehension which has been felt in many minds concerning the practicability of the Eads Ship Railway project seems to be disappearing in proportion as the details of the plan are made clear to the general public. The important features of the plan, or those which have received the most discussion and given rise to the strongest objections, appear in the main to have been endorsed as feasible by high scientific authorities. One of the objections most frequently referred to is that the average ship could not stand the strain of the transportation by rail. The opinion of Captain Eads, with his experience in engineering works, such as the construction of the bridge at St. Louis, is of itself of great value, and his opinion is supported by some of the most noted engineers of the day, among them E. I. Reed, who ranks among the leading experts of the world in naval construction, having been for years the chief constructor of the British navy; and Edward Hartt and H. L. Fernald, noted naval constructors of the United States navy. In addition to these authorities a number of prominent military and civil engineers give their endorsements to Captain Eads' opinion on this point and other features of the plan. A very clear and interesting description of the plan is given in an article by John A. Dillon in the November number of Har-

pers' Magazine, a portion of which we publish elsewhere. Evidently belief in the practicability of the ship railway is growing in the minds not only of scientific persons, but in the public mind also. The prospects of the enterprise are reported as being promising, and the idea seems destined to grow in popularity, one indication of which is that the literary and business press are treating it as a popular subject, and in a most cordial spirit placing its merits before the public.

THE CONFEDERATE BOND MYSTERY AND THE SOUTH.

THE investing public, both here and abroad—and, in fact, the general public, especially that part of it interested in construction work, manufacturing, and agriculture—are looking with no little curiosity and expectancy just now to the Southern States as a field of special promise. In England an unusual amount of inquiry is being made concerning the probable future of Southern railroad interests and the agricultural and manufacturing development of that section of our country. Even the absurd flurry about Confederate bonds, which has been witnessed of late over the water, has doubtless as its basis (if anything appearing at first glance so chimerical and utterly void of honest life can be said to have a basis of any kind) that of an awakening faith in the South.

To us on this side of the water, of course, this Confederate bond business seems an amusing absurdity, for which no satisfactory explanation can be made or expected. Various theories of the meaning of the movement have been advanced, however, more or less significant as illustrating the gullibility with which the schemers accredit the unsophisticated class of investors that are supposed to be ready, chiefly in the rural districts of England, to bite at a glittering hook with a somewhat important-sounding name, as it may seem to those who are not familiar with American history, but which by others is known to have not even the semblance of a bait. We venture to give a

possible explanation of this mysterious activity among the musty bonds, or at least to mention what it occurs to us may result from it even if not so intended by the schemers. It looks not a little like a skilful bit of advertising; a forerunner sent out to awaken curiosity and to turn people to thinking of the section from which the bonds came, its present condition, and the promises of its future.

Considered as an advertisement, the movement no longer retains the character of an absurdity, but can be recognized as a plan of far-seeing adroitness and power. It is well known that Confederate bonds are scattered all over England, and are held by many small investors, who do not keep themselves thoroughly informed as to the tendency of current events, and of recent years have known little and cared less concerning the developments that have been taking place in that section, from which a few years ago the unfortunate bonds were issued. Since the bonds were buried away in rural garrets among the accumulating never-to-be-again-referred-to papers, little interest has been taken by their holders in the enterprises that have started up in our Southern States. But here comes word to them that those bonds are worth resurrecting, and even if the amount paid for them is a mere trifle, the trifle coming in this particular way has a peculiarly pleasant value in their eyes. In nothing does the financial heart count itself more blessed than in reaping unexpected fruit, be it ever so little, from seed so long considered fruitless as to have been placed among the would-be-forgotten ventures of a much regretted past.

The resurrection of the bonds brings to the attention of the holders, perhaps for the first time, the fact that a new life is springing up in the South. The curiosity about the bonds develops a stronger and more important curiosity concerning the investment field opening before them. They begin to read up concerning the resources of the section in question, and the more they read the more attractive grows the subject. They find the magazines

and papers of the day presenting a picture of the South new to them; a picture of bright color in the foreground for its present, and of roseate hues in the prospective for its future.

It is doubtful if any better measure than this Confederate bond movement could have been adopted by foreign projectors of Southern enterprises for stimulating an interest among investors in their plans. Whatever may have been the aim of the scheme, this is certainly a result of it. It has drawn attention in a remarkable degree to the South as a field for investment. Information is eagerly sought concerning the advantages offered, not only for investment, but for settlement in our South and Southwest; and the increased inquiry that has so promptly followed the mysterious Confederate bond movement is a significant fact. Doubtless the great Atlanta fair has already produced an effect on the foreign mind by the showing it has made in manufacturing and agricultural departments of a variety and extent that were not supposed possible, but the full benefits of the fair will not be realized until long after its close. The chief benefits must be looked for in the stimulus given to the Southern people by a better appreciation of their industrial power and natural resources, rather than an increasing curiosity among foreign investors. Let the enterprise of the people and the value of the resources of any part of our country be fully demonstrated, and capital will be found ready to go there from both sides of the water.

Right of Recognition of a Railroad Co. in any other State than their Own.

In the United States Supreme Court at Nashville on the 31st of October Chief Justice Waite delivered the opinion of the court in the cases of the Baltimore and Ohio Railroad Company, plaintiff in error, vs. George W. Koontz, administrator, and same plaintiff in error vs. Munroe Funkhouser, administrator, in error to the Supreme Court of Appeals of Virginia. These suits were brought in a State court of Virginia, under a Statute of that State, to recover from the Baltimore and Ohio Railroad Company damages for the death of sundry persons named in the respective bills, who were killed

in an accident on the Washington and Virginia Midland and Great Southern Railroad, which road was at that time leased and operated by the Baltimore and Ohio Company. The plaintiff in error filed a petition for the removal in the cases from the State to the federal courts on the ground that the Baltimore and Ohio Railroad Company was a corporation of Maryland, while the complainants were all citizens of Virginia. The State court refused to permit the removal, for the assigned cause that the Baltimore and Ohio Company, by leasing the Virginia Midland road, became a corporation of the State of Virginia, and could properly be sued in the courts of that State.

The question here presented is whether by taking a lease of the road, a Virginia corporation, the Baltimore and Ohio Company, being a citizen of Maryland, made itself also a citizen of Virginia for all purposes connected with the use of the leased property. This court holds that the rights of corporations outside the States under the authority of which they were created depend primarily upon their charters. If their charters allow it they may exercise their chartered privileges, and carry on their chartered business in any other State which by express grant or by implication permits them to do so. They have no absolute right of recognition in any other State than their own, and the State which recognizes them can impose such conditions on its recognition as it chooses and not inconsistent with the constitution and laws of the United States. If they are recognized and permitted to do business without limitation, express or implied, they carry with them wherever they go all their chartered rights and may claim all their chartered privileges which can be used away from their legal home. By doing business away from their legal residence, which is at their principal place of business within the State that brought them into existence, they do not change their citizenship, but simply extend the field of their operations. They reside at home but do business abroad. This court therefore does not hesitate to say, with all due respect for the Court of Appeals of Virginia, that the Baltimore and Ohio Railroad Co., by taking a lease from the Virginia corporation, with the unconditional assent of the State of Virginia, of a railroad which could only be operated by the use in Virginia of the corporate franchises of the lessor, did not make itself a citizen of Virginia, or part with any of the rights it had as a citizen of Maryland under the constitution and laws of the United States. The Baltimore and Ohio Railroad therefore was entitled to have these cases removed to the federal courts, and the refusal of the State court to permit such removal was an error. The judgment of the Court of Appeals in each of the cases was reversed, and the cases are remanded to the Supreme Court of Appeals of Virginia, with directions to reverse the judgments of the Circuit Court of the county and transmit the cases to that court with instructions to vacate all orders and judgments made or entered in said cases subsequent to the filing of the several petitions for removal, and proceed no further therein unless its jurisdiction be restored by the action of the Circuit Court of the United States or of this court.

Consolidation.

ARTICLES of association were filed at Indianapolis, Ind., on the 4th inst., of the New York and Council Bluffs Railroad Company and the Indiana Junction Railroad Company. The capital of the former is \$3,000,000, and of the latter \$2,000,000. The directors of both corporations are the same, viz: Ezra Haskell, Charles Theirs, Albert Price, F. Batton, Isaac Hymmer and George Pixley. The road will pass through Adams, Wells, Huntington and Wabash counties, and thence westward.

ARTICLES of incorporation were filed with the Secretary of State of Iowa on the 2d inst., of the Chicago, Burlington and Kansas City Railway Company. This company is a consolidation of the line now running from Burlington through Lee, Van Buren, Davis and Appanoose counties, and of the Kansas City, St. Joe and Burlington line from Mendota to Unionville, Putnam County, Mo., and also from Unionville, Mo., south through Sullivan and Lynn counties to Laclede. The place of business is Burlington. Capital, \$8,000,000, to run fifty years from August 16. The object of the consolidation is to secure the immediate construction of a line to Kansas City. The directors are Elijah Smith, W. J. Batch, J. N. Denison, Sidney A. Kent, William Endicott, jr., Prosper W. Smith, James F. Joy, John B. Lyon and W. W. Crapo.

Incorporation.

ARTICLES of incorporation of the United States Underground Cable Company were filed at Albany, N. Y., on the 2d inst. Capital \$600,000.

ARTICLES of incorporation of the Saratoga and Mount McGregor Railway Company have been filed at Albany. The capital stock is \$300,000. The road is to run from Saratoga to Mount McGregor, a distance of 10 miles.

THE charter of the Kansas and Texas Southern Railroad Company, with a capital of \$6,000,000, was filed with the Secretary of State of Texas on the 1st inst. The object is to build a road of standard gauge, beginning in Meade County, Kan., and having its southern terminal point at Presidio, on the Rio Grande, Tex.

ARTICLES of association of the Kansas City and Rosedale Street railway have been filed with the Secretary of State of Missouri; capital, \$50,000, one-half paid up. The stockholders are Bishop Goodrich of Jackson county, Mo., Wilson Waddingham of New York, and William T. Little of Wyandotte, Kansas.

ARTICLES of association of the Chillicothe and Kansas City Railway Company were filed on the 1st inst. in the office of the Secretary of State of Missouri. The capital stock of the corporation is \$780,000. The stockholders and directors are G. G. Henry, D. W. C. Edgerton, A. McVey, E. J. Broadus and W. B. Leach, all of Chillicothe, who subscribe one share each, and Henry Hatch, trustee, who subscribes 774 shares. The length of the road is about seventy-eight miles and is to run from Chillicothe to Kansas City.

ARTICLES of incorporation of the Nevada Midland Railroad Company, with capital stock at

\$5,000,000, divided into 50,000 shares, have been filed in the office of the Secretary of State of Nevada. The road is to be constructed from a point on the eastern boundary line of the State of Nevada, in White Pine County, to a point on the western boundary line in the County of Douglas.

THE San Francisco and Clear Lake Railroad Company has been incorporated to build and operate a railroad from the bay of San Francisco to Clear Lake; to buy, sell, own and navigate steam or other vessels, connecting the termini of said road with San Francisco, and other places on the bay and on Clear Lake. The estimated length of the road is seventy-five miles. Capital stock, \$1,500,000. The directors are: C. C. Gilman, J. D. Thompson, R. B. Safford, Daniel Willcox, T. L. Grigsby, and S. M. Holmes.

ARTICLES of incorporation of the Willamette Street Railway Company have been filed in the County Clerk's office. Capital stock, \$250,000. The incorporators are J. N. Dolph, H. Thielson, C. H. Prescott and H. B. Thielson, all prominent officials of the Oregon Railroad and Navigation Company. The company obligates itself to build at least one mile the first year, and to extend the line as fast as the city demands. The proposed routes will cover four-fifths of the city, from the extreme north to the extreme south end, and from the river to the eastern boundary.

ARTICLES of incorporation were filed in the office of the Secretary of State of Illinois on the 4th inst., of the Chicago, Keokuk and Kansas City Railway Company, with a capital of \$3,500,000. It is proposed to construct a railroad from Chicago to Hamilton, Hancock County, and a number of branches, one to the west of the main line of the Illinois Central and extending to East Hannibal; another from the east line of La Salle County to a point at or near the southeast corner of Will County, and still another from or near the point where the line crosses the Illinois Central road to a point in Rock Island County, bordering on the Mississippi River. The incorporators and first board of directors are: Charles C. Holden, J. M. Davis, William H. Reynolds, Joseph G. Press and Richard Holden, all of Chicago. The principal office is to be at Chicago.

Organization.

THE directors of the Glendale and East River Railroad Company, recently elected are: Austin C. Corbin, D. C. Corbin, G. S. Moulton, F. W. Dunton, Isaac D. Barton, Alfred Sully and Alfred C. Chapin.

At the annual meeting of the Hannibal and St. Joseph Railroad Company, on the 7th inst., the following gentlemen were elected directors: William Dowd, H. H. Cook, Myron P. Bush, Elihu Root, William J. Hutchinson, Horace Porter, John Bloodgood, A. G. Gorham and John R. Duff. The retiring directors are Jay Gould, Russell Sage, Enoch Pratt and Julius Hallgarten, who retire at their own request.

THE directors of the Philadelphia, Germantown and Norristown Railroad Company, elected on the 7th inst., are: to serve three years. Coffin Colket, Edwin N. Benson, Winfield S.

Wilson and Christopher Heebner; to serve two years, to fill a vacancy, Thomas U. Walker; to serve one year, to fill a vacancy, Joseph W. Johnson, Jr.; these with I. V. Williamson, Richard Dale, Lewis Elkins, John F. Gilpin, John Slingluff and John A. Brown, holding over, complete the full board.

THE directors of the Norwich and New York Transportation Company, elected on the 2d inst., are: James H. Wilson, of Boston; William T. Hart, of Boston; Frederick J. Kingsbury, of Waterbury; R. Suydam Grant, of New York; Simeon E. Baldwin, of New Haven; Francis H. Dewey, of Worcester, W. Bayard Cutting, of New York; Charles W. Copeland, of New York, and George W. Gill, of Worcester. The officers are: James H. Wilson president, and Oliver L. Johnson, jr., secretary and treasurer.

Personal.

GEN. I. D. IMBODEN has been elected president of the Bristol and North Canadian Narrow Gauge Railway Company.

W. H. MARSHALL has been made general roadmaster of the Long Branch division of the Central Railroad of New Jersey.

CHARLES CROCKER, president of the Southern Pacific Railroad Company, has given to the Academy of Sciences of San Francisco \$20,000 in Southern Pacific 6 per cent bonds, the interest to be devoted to original scientific investigation on the Pacific slope.

JUDGE WESTBROOK has reappointed Gen. J. W. Husted receiver of the Rockaway Beach Improvement Company by consent of Mr. Cadwalder, counsel for Frederick Taylor, Fisk & Hatch, C. P. Huntington, Morton, Bliss & Co., Drexel, Morgan & Co. and A. M. Kidder & Co., who represent more than \$700,000 in interest.

PETER A. B. WIDENER has been elected president and D. W. Dickson treasurer of the West Philadelphia Railroad Company. The latter also acts as secretary in the place of Samuel R. Reed. Assistant general superintendent Wm. Gorman has been promoted to be general superintendent.

GEORGE S. GRISCOM, general superintendent of the Eastern Division of the Pittsburg, Ft. Wayne and Chicago Railway, has tendered his resignation for the purpose of accepting the presidency of the Pittsburg, Chartiers and Yonghiogheny Railway and Chartiers Coal Company.

THE next postal cars to be put on the New York Central and Hudson and the Lake Shore and Michigan Southern Railroad are to bear the names of James G. Blaine, Thomas H. James, Wayne MacVeagh, William H. Hunt, William Windom, Robert T. Lincoln, Richard A. Elmer, Frank Hatton and A. D. Hazen.

THE following appointments have been made by the Pennsylvania Railroad Company under the revised organization which went into effect on the 1st inst.: Max Rubenack, assistant comptroller; Thomas P. Sargent, assistant purchasing agent; and George W. I. Ball, chief conveyancer. The title of the general ticket and freight agents has been changed under the new organization to division freight and division ticket agents.

Duluth and Winnipeg Railroad.

The *Boston Journal* says that a company has been organized under the title of the Duluth and Winnipeg Railroad Company, to build a railroad from Duluth, at the head of Lake Superior, in Minnesota, to a point on the international boundary line between Minnesota and Manitoba, and near the Red River of the North, a distance of 250 miles. The route as described, and the surveys for a portion of which have been completed, lies northwesterly from Duluth, through the heavy pine lands of the St. Louis River and its tributaries. At the international boundary line the road connects with a Canadian line to Winnipeg, thus affording the shortest outlet for the products of the Manitoba and great Northwestern wheat fields to the head of lake navigation, and, when navigation is closed, the shortest route over the main trunk lines to the Eastern seaports.

The distance from Winnipeg to water navigation is 150 miles shorter by this line than by the Canada Pacific, and 168 miles shorter than by way of the St. Paul, Minneapolis and Manitoba and Northern Pacific. When navigation is closed (six months in the year) the distance from Winnipeg to Montreal and the East, by the Duluth and Winnipeg Railroad, is 450 miles less than by the Canada Pacific; and between 400 and 500 miles less over this route than by that from Winnipeg to the East by way of Chicago. In aid of this enterprise the Legislature of Minnesota has granted to the company "an amount of swamp lands (quoting from the grant act) belonging or hereafter to accrue to the State under the act of Congress of March 12, 1860, equal to 10 sections of 640 acres each per mile for each mile of the road that may be completed, to be selected within 10 miles on each side on the line of the road." This grant will give them 1,600,000 acres whenever the road is completed.

Construction of Telegraphic Lines.

In 1844 Prof. Morse laid the first telegraph line between Baltimore and Washington. To-day there are half a million miles in use in the United States alone. Great Britain uses 114,000 miles of lines. Germany has 150,000 miles, and more than 3,000 miles of underground cable. British India has 50,000 miles; France, 115,000 miles; Belgium, 15,000; Spain, 25,000; Denmark, 65,000, and Norway 10,000 miles, which are used chiefly in the management of her fisheries. The Emperor of China has allowed 1,270 miles to be built during the past year. Persia has 6,000 miles, and Egypt 9,000. Russia has 130,000 miles in use, Australia has 15,000, and New Zealand 10,000. South America with the exception of a transcontinental line from Valparaiso to Buenos Ayres, and a short line between Aspinwall and Panama, has no land lines. There are nearly 10,000 miles of military telegraph lines in our Western Territories; 20,900 miles in Canada, and 7,000 miles in Mexico. Besides land lines, it is estimated that there are 104,000 nautical miles of submarine cable now in use, and new lines are projected.

SUBSCRIBE for the "American Railroad Journal."

The first complete railway train, carrying 100 passengers, passed through the St. Gothard Tunnel on the 3d inst. in fifty minutes.

Statement of the Public Debt of the United States, November 1, 1881.

DEBT BEARING INTEREST.		
	Amount Outstanding.	Accrued Interest.
6 per cent loan, 1861-'81, continued at 3½ per cent.	\$113,926,350 00	\$1,329,140 75
6 per cent loan 1863-'81 continued at 3½ per cent	47,949,700 00	559,413 17
5 per cent funded loan of 1881.....	401,504,900 00	3,069,654 77
4½ per cent funded loan of 1891.....	250,000,000 00	1,875,000 00
per cent funded loan of 1907.....	738,749,750 00	2,462,499 16
4 per cent refunding certificates.....	598,050 00	1,993 50
3 per cent navy pension fund.....	14,000,000 00	105,000 00
Aggregate of debt bearing interest.....	\$1,566,728,750 00	\$9,457,701 35
Interest due and unpaid.....		2,041,671 15
DEBT ON WHICH INTEREST HAS CEASED SINCE MATURITY.		
	Amount Outstanding.	Interest due & unpaid.
4 to 6 per cent. old debt, 1837.	\$57,665 00	\$64,174 81
5 per cent. Mexican indemnity stock, 1846.....	1,104 91	85 74
6 per cent. bonds, 1847.....	1,250 00	22 00
6 per cent. bounty land scrip, 1847.....	3,275 00	213 06
5 per cent. Texas indemnity bonds, 1850.....	20,000 00	2,945 00
5 per cent. bonds, of 1858.....	8,000 00	.....
5 per cent. bonds, of 1860.....	10,000 00	600 00
6 per cent. 5-20 bonds, 1862, called.....	370,700 00	8,507 32
6 per cent. 5-20 bonds, June, 1864, called.....	58,650 00	170 95
6 per cent. 5-20 bonds, 1865, called.....	77,060 00	18,912 52
5 per cent. 10-40 bonds, 1864, called.....	534,450 00	112,093 65
6 per cent. Consol. bonds, 1865, called.....	426,100 00	19,536 75
6 per cent. Consol. bonds, 1867, called.....	1,199,300 00	207,669 42
per cent. Consol. bonds, 1868, called.....	371,850 00	26,027 05
6 per cent. loan, Feb. 8, 1861, matured Dec. 31, 1880.....	174,000 00	7,800 00
5 per cent. funded loan 1881, called.....	7,596,850 00	208,564 72
Oregon War Debt, March 2, 1881, matured July 1, 1881.	142,950 00	7,084 50
6 per cent loan of July 17 and Aug. 5, 1861, matured June 30, 1881.....	1,547,750 00	67,198 50
6 per cent. loan of March 3, 1863, matured June 30, 1881.	575,650 00	21,822 00
1-10 to 6 per cent. Treasury notes, prior to 1846.....	82,525 35	2,668 06
1-10 to 6 per cent. Treasury notes, 1846.....	6,000 00	206 00
6 per ct. Treasury notes, 1847.....	950 00	57 00
3 to 6 per cent. Treasury notes, 1857.....	1,700 00	99 00
6 per ct. Treasury notes, 1861.	3,000 00	364 50
7 3-10 per cent. 3 years' Treasury notes, 1861.....	16,300 00	1,104 43
5 per cent. 1 year notes, 1863..	43,605 00	2,192 35
5 per cent. 2 year notes, 1863..	35,250 00	1,784 80
6 per ct. compound interest notes, 1863-64.....	226,920 00	46,290 11
7 3-10 per cent. 5 years' Treasury notes, 1864-65.....	141,500 00	4,869 71
6 per cent. certificates of indebtedness, 1862-63.....	4,000 00	263 48
4 to 6 per cent. temporary loan, 1864.....	2,960 00	244 19
5 per cent. certificates, called.	5,000 00	394 31
Aggregate of debt on which interest has ceased since maturity.....	\$13,746,305 26	\$833,955 93
DEBT BEARING NO INTEREST.		
Demand notes, 1861-62.....	\$60,040 00	
Legal tender notes, 1862-63.....	346,681,016 00	
Certificates of Deposit.....	8,310,000 00	
Coin certificates, 1863.....	5,207,920 00	
Silver certificates, 1878.....	66,327,670 00	
Unclaimed interest.....		7,256 51
Fractional currency, 1862, 1866 and 1864 \$15,469,935 92		
Less amount estimated as lost or destroyed, act of June, 21, 1879.....	8,375,934 00	
		7 093,151 92
Aggregate of debt bearing no interest.....	\$433,679,797 92	\$7,256 51

RECAPITULATION.

	Amount Outstanding.	Interest.
Debt bearing interest in coin, viz:		
Bonds at 6 per cent., continued at 3½ per cent.	\$161,876,050 00	
Bonds at 5 per cent., continued at 3½ per cent.	401,504,900 00	
Bonds at 4½ per cent.....	250,000,000 00	
Bonds at 4 per cent.....	738,749,750 00	
Refunding certificates.....	598,050 00	
Navy pension fund, 3 p.c.	14,000,000 00	
	\$1,566,728,750 00	\$11,499,372 50
Debt on which interest has ceased since maturity.	13,746,305 26	833,955 93
Debt bearing no int., viz:		
Old demand and legal-tender notes.....	\$346,741,056 00	
Certificates of deposit.....	8,310,000 00	
Coin & silver certificates.	71,535,590 00	
Fractional currency.....	7,093,151 92	
	\$433,679,797 92	7,256 51
Unclaimed interest.....		7,256 51
	\$2,014,154,853 18	\$12,340,584 94
Total debt, principal and interest to date, including interest due and unpaid.....		\$2,026,495,438 12
AMOUNT IN TREASURY.		
Interest due and unpaid.....		\$2,041,671 15
Debt on which interest has ceased.....		13,746,305 26
Interest thereon.....		833,955 93
Gold and silver certificates.....		71,535,590 00
U. S. notes held for redemption of certificates of deposit.....		8,311,000 00
Cash balance available November 1, 1881.....		144,493,448 88
		\$240,960,971 22
Debt, less am't in Treas'y Nov. 1, 1881.....		\$1,785,534,466 90
Debt, less am't in Treasury Oct. 1, 1881.....		1,798,855,925 77
Decrease of debt during the month.....		\$13,321,458 87
Decrease of debt since June 30, 1881.....		\$55,064,345 08
BONDS ISSUED TO THE PACIFIC RAILROAD COMPANIES, INTEREST PAYABLE IN LAWFUL MONEY.		
	Amount Outstanding.	Accrued Interest not paid.
Central Pacific bonds, 1862-64.....	\$25,885,120 00	\$517,702 40
Kansas Pacific bonds, 1862-64.....	6,303,000 00	126,060 00
Union Pacific bonds, 1862-64.....	27,236,512 00	544,730 24
Cent. Branch Union Pacific bonds, 1862-64.....	1,600,000 00	32,000 00
West'n Pacific Bonds, 1862-64.....	1,970,560 00	39,411 20
Sioux City & Pacific bonds, 1862-64.....	1,628,320 00	32,566 40
Totals.....	\$64,623,512 00	\$1,292,470 24
Interest paid by the United States, \$51,467,272 02; interest repaid by transportation of mails, &c., \$14,662,941 00; interest repaid by cash payments: 5 per cent. net earnings, \$655,198 87; balance of interest paid by United States, \$36,149,132 09.		

The foregoing is a correct statement of the public debt, as appears from the books and Treasurer's returns in the Department at the close of business, October 31, 1881.

H. F. FRENCHE,
Acting Secretary of the Treasury.

Testing Underground Wires.

A successful test was recently made of the workings of the National Underground Electric Company's new line in Market Street, Philadelphia, in the presence of a large number of Philadelphia, Chicago and New York capitalists. Three telegraphic and two telephonic instruments were in connection with similar instruments in distant buildings, and an electric lamp was in connection with a dynamo-electric machine across the street. The telegraphic instruments and one telephonic instrument were connected with solenoid wires, and the other telephone with the ordinary ground-current wire as used in the present system of air lines. In the experiments, a cable, doubled so as to represent a straight length of two and one-half miles, was used. The experiments with the telephones were more interesting. A solenoid wire used as an ordinary wire, with the ends grounded, connected one of the telephones. When the receiver was held to the ear various sounds could be heard in addition to the voice of the person at the other end of

the line. These were the sounds gathered in by the induction of the grounded wire. The click of telegraphic instruments could be plainly heard, while the buzzing and whirring sounds made the operation of the wire anything but satisfactory. The telegraphic clicking sounds came by induction from the Western Union and other poles forty feet away, to the wire buried four feet under the stones in the street. The messages could hardly be read, owing to the back strokes of the instruments. The other telephone connected with a solenoid wire, used in its proper way with the metallic circuit, was then tested. When the receiver was placed to the ear not a sound could be heard except the voice, clear and distinct, of the person talking into the transmitter. The slightest whisper was distinctly audible, and conversation could be carried on with the greatest ease.

The Coal Trade.

The leading coal carrying companies make the following reports of their tonnage for the week ending October 29, and for the year to same date, compared with their respective amounts carried to the same date last year:

	Week.	1881.	1880.
Reading Railroad.....	194,166	7,204,396	6,410,003
Schuylkill Canal.....	16,352	507,068	440,332
Lehigh Valley.....	129,335	5,168,565	6,086,551
Delaware, Lackawanna and Western.....	97,589	3,495,487	2,865,559
Shamokin.....	24,641	899,176	750,547
Central R. R. of New Jersey.....	133,790	3,637,120	3,099,308
United R. R. of New Jersey.....	35,745	1,281,521	930,836
Pennsylvania Coal.....	30,158	1,145,554	908,887
Delaware and Hudson Canal.....	78,732	2,937,713	2,446,043
Huntingdon and Broad Top Mountain.....	6,963	432,953	360,486
Penn. and New York.....	38,075	1,362,477	1,013,895
Clearfield, Pa.....	55,889	1,966,442	1,399,930

The total tonnage of anthracite coal from all the regions for the week ending Oct. 29, as reported by the several carrying companies, amounted to 689,636 tons, against 661,859 tons in the corresponding week last year, an increase of 27,777 tons. The total amount of anthracite mined for the year is 23,174,957 tons, against 19,181,551 tons for the same period last year, an increase of 3,993,406 tons. The quantity of bituminous coal sent to market for the week amounted to 51,054 tons, against 60,428 tons in the corresponding week of last year, a decrease of 9,347 tons. The total amount of bituminous mined for the year is 4,069,594 tons, against 3,559,474 tons for the corresponding period last year, an increase of 510,120 tons. The total tonnage of all kinds of coal for the week is 740,699 tons, against 722,287 tons in corresponding week last year, an increase of 18,403 tons, and the total tonnage for the coal year is 27,244,551 tons, against 22,741,025 tons, same date last year, an increase of 4,503,526 tons. The quantity of coal and coke carried over the Pennsylvania Railroad for the week ending October 29 was 187,632 tons, of which 144,306 tons were coal and 43,326 tons coke. The total tonnage for the year thus far has been 7,414,367 tons, of which 5,478,759 tons were coal and 1,965,608 tons coke. These figures embrace all the coal and coke carried over the road east and west. The shipments of bituminous coal from the mines of the Cumberland coal region during the week ended October 29 were 46,877 tons, and for the year to that date 1,757,104 tons, a decrease of 13,902 tons as compared with the corresponding period of

last year. The coal was carried to tidewater as follows: Baltimore and Ohio Railroad—week, 31,347 tons; year, 1,126,769 tons; increase compared with 1880, 73,428 tons; Chesapeake and Ohio Canal—week, 11,075 tons; year, 397,935 tons; decrease compared with 1880, 131,714 tons. Pennsylvania Railroad—week, 4,263 tons; year, 230,662 tons; increase compared with 1880, 42,347 tons. The coal was brought from the mines as follows: Cumberland and Pennsylvania Railroad—week, 37,501 tons; year, 1,546,851 tons. George's Creek and Cumberland Railroad—week, 6,745 tons; year, 146,434 tons; Baltimore and Ohio Railroad—week, 1,716 tons; year, 57,523 tons. West Virginia Central and Pittsburg Railway—week, 547 tons, its first business. The Reading Railroad shipment for last week, ending November 5, was 173,000 tons, of which 40,000 tons were sent to and 39,500 tons shipped from Port Richmond, and 16,000 tons sent to and 15,800 tons shipped from Elizabethport.—*Phil. Ledger*, Nov. 7.

Liability of Railroad Company for Extra Baggage.

In April, 1873, John A. Millard, Jr., bought a ticket at St. Louis, Mo., for Dennison, Texas, over the Missouri, Kansas and Texas Railroad. He had with him a valise, containing his personal baggage, and two trunks filled with electrical apparatus. The baggage-master at St. Louis refused to check all the luggage without extra compensation, because it exceeded the prescribed weight. Mr. Millard then informed him of the nature of the contents of the trunks and paid the charge for the overweight, and checks were given him for the valise and trunks, which were then put aboard the train. On the following day they were destroyed by fire while in the company's possession on the route. Mr. Millard brought suit in the Supreme Court to recover for all of his property destroyed as baggage. The Court gave him judgment for the value of the valise and its contents and for the two trunks, but excluded proof of their contents on the ground that they did not come within the description of baggage.

The defendant paid the judgment, and Mr. Millard then began another action in the same court against the defendant to recover the value of the electrical apparatus contained in the trunks. The railroad company defended on the ground that there was only one contract to carry the baggage and electrical apparatus and that the recovery in the former suit was a bar to this action. It insisted also that Mr. Millard could not recover for the loss of his trunks in one action and for their contents in another, and that the trunks were not baggage if their contents were not. The Court held that there were two distinct contracts—one to carry the baggage implied from the purchase of the ticket, and the other to carry the electrical apparatus as special baggage or freight for which the company demanded and received compensation; that the judgment in the first action was no bar to this, as Mr. Millard there sought to recover for baggage only, and if the recovery included items not covered by that term, the defendant's remedy was by appeal in that action. The Court gave Mr. Millard judgment for the full amount claimed. The Court of

Appeals has sustained this judgment with costs in a decision just handed down.

Freling H. Smith appeared as counsel for the plaintiff and Thomas W. Osborn for the defendant.

Cincinnati Iron Market.

OFFICE OF E. L. HARPER & CO.

Cincinnati, Nov. 8, 1881.

We are having a very active demand for nearly all grades and the market closes firm at the quotations given below. The mills have all started.

The Swifts Iron and Steel Works are running both their mills at Newport and also the mill at Riverside employing 700 men and running double turn. They report plenty of orders at good prices. We quote as follows:

FOUNDRY.		No.	Mos.
Hanging Rock Charcoal.....	1	29 00@30 00	4
Strong Neutral Coke.....	1	25 00@27 00	4
American Scotch.....	1	25 00@26 50	4
GREY FORGE.			
Neutral Coke.....	22	50@24 50	4
Cold Short.....	22	50@23 50	4
CAR WHEEL AND MALLEABLE.			
Hanging Rock Cold Blast.....	36	00@38 00	4
Warm Blast.....	30	00@32 00	4
Lake Superior 1 and 2.....	32	00@33 00	4
Lake Superior 3 to 6.....	34	00@36 00	4
Southern Car Wheel.....	34	00@35 00	4

Railroad Earnings.

THE earnings of the Norfolk and Western Railroad for the month of October, 1881, were \$241,672.90, against \$235,909.95 for the month of October, 1880, an increase of \$5,762.75. For the six months ending October 31, 1881, the earnings were \$1,139,100.08; for the corresponding period of the previous year, \$1,036,058.95, an increase of \$103,041.13.

THE earnings of the St. Paul, Minneapolis and Manitoba Railway for the week ending October 31, 1881, were \$184,676.09, against \$118,186.54 for the same week in 1880, an increase of \$66,489.55. For the month of October, 1881, the earnings were \$605,703.74, and for the month of October, 1880, \$345,056.98, an increase of \$260,650.76. For the ten months ending October 31, 1881, the earnings were \$3,842,167.11, against \$2,561,915.12 for the corresponding period of 1880, an increase of \$1,280,251.99.

THE earnings of the Chicago and Northwestern Railway for the month ending October 31, 1881, were \$721,833.21, against \$717,417.39 for the same week in 1880, an increase of \$4,415.82. For the month of October, 1881, the earnings were \$2,305,703.12, against \$2,105,216.73 for the month of October, 1880, an increase of \$200,486.39. From June 1 to October 31, 1881, the earnings were \$11,203,016.03, against \$9,264,262.62 for the corresponding five months of 1880, an increase of \$1,938,753.41.

THE earnings of the Denver and Rio Grande Railway for the week ending October 31, 1881, were \$207,521.27; same week last year, \$152,973.17—increase, \$54,548.08. For the month of October, 1881, the earnings were \$665,686.78, against \$473,317.81 for the month of October, 1880, an increase of \$192,368.97.

THE earnings of the Flint and Pere Marquette Railway for the last ten days in October, 1881, were \$54,723.05; same time in 1880, \$49,-

708.05; increase, \$5,015. From January 1, to October 31, 1881, \$1,522,984.95; corresponding period in 1880, \$1,219,878.65—increase, \$231,106.30.

The Brotherhood of Locomotive Engineers.

FROM the address of Mr. P. M. Arthur, Grand Chief Engineer of the International Brotherhood of Locomotive Engineers of the United States and Canada, delivered before that body while recently in session at Baltimore, we learn some interesting facts with regard to the aims and work of the association over which he presides. There have been thirteen new "divisions" of the brotherhood established during the past year, so that the total number of divisions at present is 191. At the close of the last fiscal year (September 30, 1880) there were 2,203 members. During the year now ended there were 35 deaths and 112 forfeitures of membership, but the brotherhood at present numbers 2,654, a gain of 304 over last year. Thirty-four claims, amounting to \$77,814.78, have been paid in the last 12 months, and the total amount paid to widows and orphans since the establishment of the Association is \$1,178,888.33.

The object of the association is to look after the interests of its members as employees, and guard them against errors. It is of a beneficial character. There have been added to some of the divisions relief associations, paying a stipulated sum weekly to members in case of sickness or disability. To encourage habits of thrift is one of the Brotherhood's chief objects. A monthly journal is published having a circulation of nine thousand. The Grand Chief Engineer protests against the severe tests for color-blindness applied by the Connecticut and Massachusetts boards of examiners to locomotive engineers of those States, and thinks they indicate "a deep-laid scheme to enrich themselves at the expense of railroad men." The Connecticut tests have, however, been repealed.

Another alleged grievance is the growing system of compelling engineers to pay for the breakage of buffers, drawheads, etc., a thing incident necessarily, it is thought, to all railroading.

The Bicycle and its Rights.

In his forthcoming new edition of his work on Highways, Mr. Cook says of bicycles: "The use of the bicycle as a means of travel is so recent that in this State there is as yet no adjudication as to the rights of travelers employing it upon the highway. In England it has been held that one riding a bicycle on the highway at such a pace as to be dangerous to passers by may be convicted of furiously driving a carriage, under a statute forbidding such an act. *Taylor vs. Goodwin*, L. R., 4 Q. B. D., 228. The right to use a bicycle in a proper manner on the highway was not questioned in the case, and the Court by its decision indirectly admits such right. In the absence of any legislative enactment forbidding them, riders of bicycles would seem to have the same right upon highways as those using any other vehicles, and the validity of any municipal ordinance prohibiting the use of bicycles in those parts of the public streets where carriages may go would be very doubtful."—*Albany Law Journal*.

New York Stock Exchange.

(Thursday's quotations follow money article.)

Closing Prices for the week ending Nov. 9.

Th. 3. F. 4. Sat. 5. M. 7. Tu. 8. W. 9.

Adams Express	147				
Albany and Susq.					
1st mortgage					
2d mortgage	106	106		105	
American Express	95	99	95½		97
Atlantic & Pac. Tel.					
Burl. C. R. & Nor.	81	82	82		
1st mortgage 5s.	101½	101½	101½		102½
Canada Southern	63½	64½	64½	64½	64½
1st mortgage guar	99	99	99		
Central of N. Jersey	95½	96	95½	96	96½
1st mort. 1890			11½	118½	
7s, consol. ass.	114½	114½			
7s, convertible ass.					
7s, Income		100			103
Adjustment		106			
Central Pacific	95½	95½	95½	95½	95½
6s, gold	115	115			
1st M. (San Joa.)					
1st M. (Cal. & Or.)					
Land grant 6s.					106
Chesapeake & Ohio	28½	28½	29½		29½
Chicago and Alton	131		131½		132½
Preferred					
1st mortgage					
Sinking Fund					
Chi., Bur. & Quincy	138	138	139	140½	143½
7s, Consol. 1903					150
Chi., Mil. & St. Paul	108½	108½	108½	108½	108½
Preferred	122				122
1st mortgage, 8s.					134
2d mort., 7 3-10s.					
7s, gold					
1st M. (La. C. div.)					
1st M. I. & M. div.					
1st M. (I. & D. ext.)					
1st M. (H. & D. div.)		118			118
1st M. (C. & M. div.)					120½
Consolidated S. F.	122½		123		
Chi. & Northwestern	128½	127½	128½	127	127½
Preferred	139½	140½	139½	140	140
1st mortgage					
Sinking Fund 6s.			107		107½
Consolidated 7s.	133				
Consol. Gold b'ds	125		125	125	
Do. reg.					
Chi., R. I. & Pac.	135½	135½	135½	135½	135
6s, 1917, c.					125
Clev., Col., Cin. & Ind.	93½	95½	94½		93½
1st mortgage					
Clev. & Pittsburg gr.	139				
7s, Consolidated					
4th mortgage					
Col. Chi. & Ind. Cent.	21	21	21½	21½	21
1st mortgage					125
2d mortgage					
Del. & Hud. Canal	109½	109½	109½	109½	110
Reg. 7s, 1891	115		116		116
Reg. 7s, 1884	107				
7s, 1894					
Del. Lack. & Western	126½	127½	127½	127½	128½
2d mortgage 7s.					
7s, Consol. 1907					
Erie Railway					
1s mortgage					
2d mort. 6s, ext.					108½
3d mortgage			105		
4th mort. 6s, ext.		105½	107		
5th mortgage					
7s, Consol. gold			127		
Great West. 1st mort.		109			
2d mortgage					
Hannibal & St. Jo.	96½	96½	96½	96½	96½
Preferred	112½	114	113½	114	114
8s, Convertible	108			108	
Houston & Tex. Cen	90			89½	
1st mortgage		111	111½		
Illinois Central	131½	132½	132½		134½
Lake Shore & Mich. So.	122½	123	122½	122½	121½
Consol. 7s.					
Consol. 7s, reg.			128½		
2d Consolidated	126½				
Loh. & W. B. 7s, Con					
Long Dock bonds					
Louisville & Nash.	95½	95½	95½	95½	96
7s, Consolidated			117½		
Manhattan	51½	52	51½	53	56½
Met. Elevated	101½	104	103½	103½	100½
1st mortgage					
Michigan Central	94½	94½	94½	94½	94½
7s, 1902	121½	122			
M. S. & N. I. 1st. S. F.					
Morris & Essex					125½
1st mortgage	135½				
2d mortgage	117				
7s of 1871		119			
7s, Convertible					
7s, Consolidated	124½				125
N. Y. Cen. & Hud. R.	140	140½	140½	140	139½
6s, S. F., 1893	102½	102	102½	102½	103

6s, S. F., 1887					
1st mortgage					
1st mortgage, reg.					
N. Y. Elevated	110½	111	110		109½
1st mortgage		118½	118½		118½
N. Y. & Harlem					
Preferred					
1st mortgage	134½				
1st mortgage, reg.					
N. Y., Lake Erie & W.	45½	47½	47	47½	47½
Preferred	90	90½	90½	91	92½
2d Consolidated	103½	104½	104½	104½	104½
New 2d 5s fund					
N. Y., N. Hav'n & Hart	170½	170			170
North Mo. 1st mort					
Northern Pacific	39½	40	40	40½	40½
Preferred	81½	82½	82½	82	82½
Ohio & Mississippi	41½	42½	42½	42½	
Preferred					
2d mortgage	124				
Consolidated 7s.					
Consol. S. Fund		119½			
Pacific Mail S. S. Co	44½	46½	45	45½	45½
Pacific R. R. of Mo.					
1st mortgage	107½	107½	108		107½
2d mortgage					
Panama	193	190			
Phila. & Reading	68½	68	68½	64	68½
Pitts. Ft. W. & Chi. gtd			138	139½	
1st mortgage				139	
2d mortgage					
3d mortgage					
Pullman Palace Car	130½	130½		130½	
Quickkill Min'g Co		15	15		16½
Preferred		61	61½		63
St. Louis & San Fran	45½	45½	45½	46½	47
Preferred	69½	70	71	71	71
1st Preferred	107		107	108½	108½
St. L., Alt'n & T. H.		54			
Preferred					
1st mortgage					
2d mort. pref.		109½			
Income bonds					
St. L., Iron Mt. & S.					
1st mortgage					
2d mortgage			109½		
Toledo and Wabash					
1st mortgage	112½				
2d mortgage					
7s, Consolidated					
St. Louis Division	106½	107			
Union Pacific	120½	120½	120½	120½	120½
1st mortgage	116½		116½	117	117
Land Grant 7s.					
Sinking Fund 8s.					
United States Ex.	75	74½			75
Wabash, St. L. & Pac	48½	48½	48½	48½	49½
Preferred	89½	88½	89½	89½	89½
New mort. 7s.					
Wells-Fargo Ex					
Western Pacific b'ds					
Western Union Tel.	86½	86½	86½	87½	87½
7s, S. F. conv., 1900					
FEDERAL STOCKS:—					
U. S. 4s, 1907, reg.		116½	116½		116½
U. S. 4s, 1907, coup.	116		116½		116½
U. S. 4½s, 1891, reg.	112½				
U. S. 4½s, 1891, coup.					113½
U. S. 6s, 1881, reg.	102	101½		102	102
U. S. 6s, cont'd at 3½			102		
U. S. 6s cont'd at 3½					
Dt. of Col. 3-65s, reg					
Dt. of Col. 3-65s, coup					107

Boston Stock Exchange.

Prices for the Week Ending Nov. 9.

Th. 3. F. 4. Sat. 5. M. 7. Tu. 8. W. 9.

Atch., Top. & San. Fe.	140½	140½	141	141½	141½
1st mortgage					
2d mortgage					
Land Grant 7s.			118		
Boston & Albany	164½	164½	165	164½	164
7s reg.					
Boston and Lowell					
Boston & Maine	151½				151
Boston & Providence		162			
Bos'n, Hart. & Erie 7s		68		67½	67½
Burl. & Mo. R. L. G. 7s					
Burl. & Mo. R. in Neb					
6s, exempt					
4s					
Chi., Burl. & Quincy	137½	138	139	140½	141½
7s					
Cin., Sand & Clev (\$50)	24½	27½	28	27½	27½
Concord (\$50)					
Connecticut River					
Eastern	50	49½	54	48	
New 4½ Bonds					110
Fitchburg					
Kan. C., Top. & West					
Michigan Central	94½				93½

N. Y. & New England					
7s.	116		116½		116½
Northern N. H.					
Norwich & Worcester					
Ogden & Lake Cham	36½				
Preferred					
Old Colony		129			129½
Ph. Wil. & Balt. (\$40)		65			
Portl'd, Saco & Ports					
Pueblo & Ark Val					
7s.	119		119		119
Pullman Palace Car		130½			131x
Union Pacific	121½				120½
6s.					
Land Grant 7s.					
Sinking Fund 8s.					
Vermont & Canada					
Vermont & Mass.					
Worcester & Nashua					60
Cambridge (Horse)					
Metropolitan (Horse)					
Middlesex (Horse)					
Cal. & Hecla Min'g Co	224	220	223	223	224
Quincy	41	41	41½	41½	41

Philadelphia Stock Exchange.

Closing Prices for the Week Ending Nov. 8.

W. 2. Th. 3. F. 4. Sat. 5. M. 7. Tu. 8.

Allegh'y Val. 7 3-10s					
7s, Income	52½				
Camd'n & Am. 6s, '83					
6s, 1889					
Mort. 6s, 1889	113				
Camden & Atlantic					
Preferred					
1st mortgage					
2d mortgage					
Catawissa		17			
Preferred					
7s, new					120
Del. & Bound Brook					
7s					
Elmira & Williamspt					
Preferred					
Hunt. & B. Top Mt.			15½	16	16½
Preferred	30½	30½	30	31	30½
2d mortgage					31
Lehigh Navigation	46%	46½	46½	47	47½
6s, 1884					
Gold Loan					
Railroad Loan					
Conv. Gold Loan					
Consol. Mort. 7s		118			
Lehigh Valley	61½	62	62	61½	61½
1st mort. 6s, coup					
1st mort. 6s, reg.			121½		
2d mort. 7s	131		131		
Consol mort. 6s					
Consol.mtg.6s,reg					
Little Schuylkill	56½			56½	56½
Minehill&Sch.Hav'n		61½		61½	61½
North Pennsylvania	60	60			
1st mortgage 6s		106			
2d mortgage 7s			117		
Genl. mtg. 7s, coup					
Genl. mtg. 7s, reg					
Northern Central	51½		52		51½
5s		99½		99½	
Northern Pacific	39	39½	39½	40½	40½
Preferred	80½	81½	82½	82½	81½
Pennsylvania R. R.	63½	63½	63½	63½	63½
1st mortgage					
Gen'l mort.					
Gen'l mort reg.					
Consol. mort. 6s					
Consol. mort. reg					
Pa. State 6s 2d series					
do 3d series					101½
do 5s, new			118		
do 3s					
Phila. & Reading	34½	34½	34½	34½	34
1st mortgage 6s					34½
7s of 1893					
7s, new convert.					
7s					
Consol. mort. 7s			124		
Consol. mort. reg.					
Gen'l mort. 6s	94½	94½	94½	95½	95½
Philadelphia & Erie	20	20	20½	20½	21
1st mortgage 5s			105½	105½	
2d mortgage 7s					
Pittab., Cin. & St. L. 7s					
Pitts., Titusv. & Buff.	21½	21½	21½	22½	22½
7s				23½	23½
Schuylkill Nav't'n.					
Preferred	13			13½	
6s, 1872					
6s, 1882				90	89
United Co. of N. J.	184	184	184	184	184
Hestonville, (Horse)					
Chestnut & Wal. (do)					
Green & Coates (do)					

Baltimore Stock Exchange.

Closing Prices for the Week Ending Nov. 8.

	W.2.	Th.3.	F.4.	Sat.5.	M.7.	Tu.8.
Baltimore & Ohio...	190					
6s, 1890.....	106					
6s, 1895.....	106					
Central Ohio (\$50).....						
1st mortgage.....						
Marietta & Cincin'ti.....						
1st mortgage, 7s.....	124			123	123	
2d mortgage, 7s.....	95	95	95	95	94	
3d mortgage, 8s.....	50	49	47	47		
Northern Cen. (\$50).....	52					
2d mort., 6s, 1885.....	107					
3d mort., 6s, 1900.....	98					
6s, 1900, gold.....	114	114				
6s, 1904, gold.....						
Orange & Alex. 1st.....						
2d mortgage, 6s.....						
3d mortgage, 6s.....						
4th mortgage, 8s.....						
O. Alex. & Manas's 7s.....						
Pitts. & Connellav. 7s.....						
Virginia 6s, Consol.....	81	81	81	82	81	
Consol. coupons.....	94	94	95	95	94	
10-40 bonds.....	53	53	53		52	
Def'd Certificates.....	20					
Western Maryland.....	16					
1st M., end. by Balt.....				117		
2d M., do.....						
3d M., do.....						
1st M., unendors'd.....						
2d M., end. WashCo.....						
3d M., preferred.....						
City Passenger R.R.....						

London Stock Exchange.

Closing Prices.

	Oct. 28.	Oct. 29.	Oct. 30.	Oct. 31.
Baltimore & Ohio (sterling).....	113	115	113	115
Cairo & Vincennes com. stock 50	52	50	52	
Do. preferred 5 per cent.....	90	92	90	92
Central of N. J. \$100 share.....	93	98	93	98
Do. Cons. Mortgage.....	117	119	117	119
Do. Adjustment Bonds.....	104	109	104	109
Do. Income Bonds.....	103	107	103	107
Det. G'd Paven & Mil. Equip bds 112	114	114	114	116
Do. Con. M. Sp. c. till '83 aft' r'p. c. 109	111	109	111	
Illinois Central \$100 shares.....	134	136	134	136
Lehigh Valley Cons. mortgage.....	118	122	118	122
Louisville & Nashville mort. 6s. 109	111	110	110	112
Do. Sink. Fund bds (S. & N. A.) 105	107	105	107	
Do. capital stock \$100 shares. 97	99	95	95	97
N. Y. Cent. & Hud. R. mt. bds. 137	140	137	140	
Do. \$100 shares.....	143	145	141	143
Do. mort. bonds (stg.).....	123	125	123	125
N. Y., Lake Erie & West. \$100 sha 45	46	45	45	46
Do. 6 p. c. pref. \$100 shares. 91	93	90	92	
Do. 1st Con. Mort. bds (Erie) 130	132	130	132	
Do. do. Funded Coupon bds. 125	128	125	128	
Do. 2d Consol Mort. bonds.....	106	108	105	107
Do. do. Funded Coupon bds.....	103	105	103	105
Do. Gold Income bonds.....	90	95	90	95
N. Y., Pa. & Ohio 1st mort. bonds.....	56	57	54	55
Do. Prior Lien bds (sterling).....	103	108	103	108
Pennsylvania, \$50 shares.....	68	68	66	67
Do. Con. Sink Fund Mort.....	113	120	119	121
Philadelphia & Reading \$50 sha 35	36	34	34	35
General Consol Mortgage.....	116	118	116	118
Do. Improvement Mortgage.....	104	106	104	106
Do. Gen. Mtg. 74 ex-def'd coup. 99	98	97	97	99
Do. Scrip for the 6 def. coup. 94	98	94	98	
Pittsb., Ft. W. & Chi. Eq. bds.....	105	109	105	109
St. L. Bridge 1st mort. gold b'd. 126	128	126	128	
Do. 1st pref. stock.....	102	104	103	106
Union Pa. Land Grant 1st mtg. 115	119	115	119	

AMERICAN RAILROAD JOURNAL.

Financial and Commercial Review.

THURSDAY EVENING, NOV. 10, 1881.

The quotation for call loans this morning on stock collaterals was 5@6 per cent, and on Governments 3@4 per cent. Time loans were 5@6 per cent, few being redeemable below 6 per cent. Prime mercantile paper was 6@7 per cent. In the afternoon the quotation was 5 per cent, and in the last hour 6 per cent with, in instances, an additional commission of 1-64th of 1 per cent. The closing quotation was, however, 5@6 per cent.

The actual rates for prime bankers sterling were 4.80@4.84 and 4.84@4.88, the posted rates being 4.81@4.85 and 4.85@4.89. Cable transfers were 4.85@4.89, and prime commercial bills 4.79 @4.83. The actual rates for continental bills are as follows: francs, 5.25@5.30 and 5.20@5.25; marks,

94@95 and guilders, 39@41-16 and 40. The Minnesota Refunding Act recently passed provides for the issue of new bonds in place of the old ones at a rate of interest not to exceed five per cent.

The British Board of Trade returns for October show an increase in the value of exports of £2,539,021, and an increase in the value of imports of £3,871,253, as compared with October, 1880.

By referring to the usual monthly statement of the imports of foreign dry goods at this port, it will be seen that the total for October is \$1,328,812 more than for October last year; \$1,582,071 more than for the same month in 1879, and \$3,132,376 more than in 1878. For the ten months ending with October the total is \$96,299,082 against \$107,930,754 for the same time last year, \$70,029,458 in 1879, and \$65,188,037 in 1878.

The Treasury Department at Washington gives notice that on each Wednesday of the present month, commencing with the 9th inst., and until otherwise ordered, the Assistant Treasurer at New York will redeem at par and accrued interest any uncalled 6s or 5s extended at 3½ per cent to an amount not exceeding \$2,000,000, on each day mentioned. The only bonds offered under this programme on Wednesday last were a lot of \$2,550 extended sixes, which were taken at par and accrued interest, 101½—the market price being 101½@101½.

The closing quotations on Thursday were: American District Telegraph, 50@55; Chicago, Burlington and Quincy, 143½@144; Canada Southern, 64½@64½; Chicago and Northwestern, 129½@129½; do. pref., 143½@143½; Chicago and Alton, 133½@134½; Central of New Jersey, 97½@97½; Chicago and Rock Island, 135@135½; Central Pacific, 96½@96½; Chicago, Milwaukee and St. Paul, 109@109½; do. pref., 122½@122½; Cleveland, Columbus, Cincinnati and Indianapolis, 93½@93½; Columbus, Chicago and Indiana Central, 21½@22; Delaware and Hudson Canal, 110½@110½; Delaware, Lackawanna and Western, 128½@128½; Hannibal and St. Joseph, 96½@96½; do. pref., 114@114½; Illinois Central, 125½@125½; Lake Erie and Western, 46½@47; Lake Shore and Michigan Southern, 122½@122½; Metropolitan Elevated, 100½@101½; Manhattan Elevated, 57½@57½; Michigan Central, 95½@95½; New York Elevated, 109@109½; New York, Lake Erie and Western, 47½@47½; do. pref., 92½@93; New York Central and Hudson River, 140½@140½; Ohio and Mississippi, 42½@42½; Ohio Southern, 26½@27½; Ohio Central, 27½@27½; Pacific Mail, 45½@45½; Union Pacific, 121½@121½; Western Union Telegraph, 87½@87½; Wabash, St. Louis and Pacific, 49½@49½; do. pref., 90@90½.

The following quotations of sales of Railway and other securities, for the week, are in addition to those given elsewhere in our columns:

New York.—Atlantic and Pacific 1st, 101; do. income, 42½; American Dock and Improvement Co. ass., 136; Boston and New York Air Line pref., 63; Buffalo, New York and Erie 1st, 191½, 129; Central Iowa 1st, 115½; Chesapeake and Ohio 1st pref., 41; do. 2d pref., 30½; do. 1st, series A, 102; do. Series B, 85½; do. cur. int., 56; Chicago, St. Paul, Minneapolis and Omaha, 42½; do. pref., 103½; do. consol., 103½;

Chicago, St. Louis and New Orleans, 86; do. consol., 114; Chicago, Milwaukee and St. Paul, Chicago and Pacific div. 1st, 98; do. Southern Minnesota div. 1st, 107; Cleveland, Columbus, Cincinnati and Indianapolis consol., 123; Columbus, Chicago and Indiana Central Income, 71; Denver and Rio Grande, 86; do. 1st, 114½; do. 1st consol., 108½; Danbury and Norwalk, 70; Denver, South Park and Pacific 1st, 104; Delaware and Hudson 1st, Penn. div., 128; East Tennessee, Virginia and Georgia, 16½; do. pref., 28½; do. inc., 55; Gulf, Colorado and Santa Fe 1st, 107; Houston and Texas Central 1st, Western div., 110½; Hannibal and Central Missouri 1st, M. L., 110½; International and Gr. Northern 1st, 107½; Indianapolis, Decatur and Springfield, 1st, 104; do. 2d inc., 72; Indiana, Bloomington and Western, 52½; do. 1st, 91; do. 2d, 82; Kansas Pacific 1st consol., 105; do. 6s, J. & D., 1896, 113; do. 6s, Denver Div. ass., 109½; Keokuk and Des Moines, 19½; Lehigh and Wilkesbarre consol. ass., 110; Long Island, 55½; Lake Shore Dividend bonds, 123; Lake Erie and Western, 47; do. 1st, Sandusky div., 100½; Louisville, New Albany and Chicago, 71; do. 1st, 104; Louisville and Nashville Cecilia Branch 1st, 108; do. St. Louis div., 55; do. gen'l mort. 6s, 105; Lafayette, Bloomington and Muncie 1st, 104½; Manhattan Beach, 22½; Mobile and Ohio, 38½; do. 1st debent., 98; do. 2d debent., 72½; do. new mort., 113; Missouri, Kansas and Texas, 44½; do. consol., 7s, 107; do. 2d, 80½; do. 6s, 90; Missouri Pacific, 106½; do. 1st consol., 104; Memphis and Charleston, 76; Milwaukee, Lake Shore and Western, 52; do. 1st, 103; Milwaukee and Northern, 39; Metropolitan Elevated 2d, 91½; Michigan Central 5s, 97½; Nashville, Chattanooga and St. Louis, 84½; do. 6s, 117; New York, Ontario and Western, 33½; New Orleans Pacific 1st, 93; Northern Pacific 1st, 103½; New York, Pennsylvania and Ohio Inc., 53; Ohio Central, 27½; do. 1st, 100½; do. inc., 52½; Ohio Southern, 26½; do. 1st, 94½; do. inc., 49½; Oregon Railway and Nav., 169; do. 1st, 110; Ohio and Mississippi, Springfield div. 1st, 117; Peoria, Decatur and Evansville, 43½; do. 1st, 108½; do. inc., 75; Pennsylvania Co. 4½s, 99; Rome, Watertown and Ogdensburg, 1st consol., 96½; Rochester and Pittsburg, 30½; do. 1st, 102½; do. inc., 41; Richmond and Danville, 116½; do. 6s, 103; Richmond and Allegheny, 43; do. 1st, 105; Rensselaer and Saratoga, 140; Scioto Valley 1st, 105; St. Paul and Sioux City 1st, 109½; St. Louis, Kansas City and Northern, Omaha div. 1st, 114; do. R. E. 7s, 1895, 112; St. Paul and Duluth, 30½; do. pref., 76½; St. Paul, Minneapolis and Manitoba, 110½; St. Louis and Iron Mountain 5s, 87½; Southern Pacific of California 1st, 104; South Pacific 1st, 103½; St. Louis and San Francisco 2d, class A, 102; do. C, 89; Toledo, Delphos and Burlington, 24½; do. 1st, 92; Texas and Pacific, 58½; do. inc. L. G., 79½; do. consol. mort. 6s, 102½; do. Rio Grande div. 1st, 92½; Texas and St. Louis, 35; do. 1st, 89½; Wabash, St. Louis and Pacific Gen'l mort. 6s, 98; do. Chicago div. 1st, 91½; Arkansas 7s, L. R., P. B. and N. O., 32; do. M. O. & R. R., 32; do. Central R. R., 20½; do. 6s, fund., 38; Louisiana 7s, consol., 69; North Carolina 6s, S. T. 3d class, 10; do. 6s, new, Chatham R. R. issue, 9; South Carolina 6s, non-fund., 13; Tennessee 6s, old, 72; do. new, 72; Vir-

ginia 6s, def., 20; Colorado Coal and Iron, 53; do. 6s, 92; Cam. Coal, 40; Maryland Coal, 23; Sutro Tunnel, 1; Central Mining, 1; Excelsior, 1; Homestake, 19; Little Pittsburgh, 2; Mariposa, 3; Ontario, 36; Robinson, 9; Standard, 22.

Boston.—Atlantic and Pacific 6s, 98; do. 6s, Income 43; Atchison, Topeka and Santa Fe 5s, 94; Boston Land, 8; Boston Water Power, 7; Chicago, Milwaukee and St. Paul, Wisconsin Valley div. 6s, 102; Chicago and West Michigan, 82; Connecticut and Passumpsic Rivers 7s, 116; Connotton Valley, 22; do. 7s, 97; do. 7s, Straitsville div., 84; Chicago, Burlington and Quincy 4s, 89; Detroit, Lansing and Northern 70; East Tennessee, Virginia and Georgia, 16; Flint and Pere Marquette, 28; do. pref., 95; Iowa Falls and Sioux City, 85; do. 7s, 119; Kansas City, Fort Scott and Gulf pref., 122; Little Rock and Fort Smith, 68; Massachusetts Central 6s, 98; Mexican Central 7s, 91; do. Blocks, old, 116; do. new, 98; Marquette, Houghton and Ontonagon, 69; Northern Pacific 6s, 101; New Mexico and Southern Pacific 7s, 117; New York and New England 6s, 108; Ogdenburg and Lake Champlain consol. 6s, 99; do. Inc., 50; Old Colony 6s, 117; Rutland pref., 27; Summit Branch, 18; Toledo, Delphos and Burlington, 12; Wisconsin Central, 23; Wichita and Southwestern 7s, 114; Brunswick Antimony, 7; Catalpa, 7; Franklin, 12; Harshaw, 5; Osceola, 29; Pawabic, 13; Ridge, 4; Sullivan, 2; Silver Islet, 35.

Philadelphia.—American Steamship Co. 6s, 106; Buffalo, Pittsburg and Western, 22; do. pref., 31; Central Transportation, 40; Chesapeake and Delaware Canal 6s, 90; Elmira and Williamsport 6s, 110; Nesquehoning Valley, 56; Perkiomen 6s, 104; Philadelphia and Reading scrip, 68; Pennsylvania Canal 6s, 101; Philadelphia, Germantown and Norristown, 110; St. Paul and Duluth, 25; Shamokin, Hazleton and Wilkesbarre 5s, 96; Texas and Pacific 1st, 105; do. consol. mort. 6s, 103; do. Rio Grande div. 6s, 91; Union and Titusville 7s, 103; West Philadelphia R. R., 110; West Jersey and Atlantic 6s, 110. The latest quotations are: City 6s, 110@124; do. free of tax, 127@128; do. 4s new, 105@112; Pennsylvania State 6s, 3d series, 101@102; do. 5s, new loan, 117@118; do. 4s, new, 110@114; Philadelphia and Reading R. R., 34@34; do. consol. mort. 7s, reg., 123@125; do. mort. 6s, 122@125; do. gen'l mort. 6s, coupon, 95@95; do. 7s, 1893, 122@125; do. new, conv., 68@70; United New Jersey R. R. and Canal, 184@184; Buffalo, Pittsburg and Western, 23@23; Pittsburg, Titusville and Buffalo 7s, 96@96; Camden and Amboy mort., 6s, 1889, 116@116; Pennsylvania R. R., 63@63; do. general mort. coupon, 123@130; do. reg., 121@122; do. consol. mort. 6s, reg., —@128; Little Schuylkill R. R. 56@56; Morris Canal, 65@70; do. pref., 165@165; Schuylkill Navigation, 6@7; do. pref., 13@13; do. 6s, 1882, 88@89; do. 1872, 108@—; Elmira and Williamsport pref., 57@60; do. 6s, 111@—; do. 5s, 100@—; Lehigh Coal and Navigation, 47@47; do. 6s, 1884, 106@106; do. R. R. loan, 116@119; do. Gold Loan, 111@111; do. consol. 7s, 117@118; Northern Pacific, 40@40; do. pref., 82@82; North Pennsylvania, 59@60; do. 6s, 105@105; do. 7s, 120

@122; do. Generalmort. 7s, reg., 120@124; Philadelphia and Erie, 20@20; do. 7s, —@118; do. 5s, 105@105; Minehill, 61@61; Catawissa, 16@17; do. pref., 55@56; do. new pref., 52@53; do. 7s, 1900, 119@120; Lehigh Valley 61@61; do. 6s, coupon, 121@—; do. reg., 122@122; do. 2d mort. 7s, —@131; do. consol. mort. 118@121; Fifth and Sixth streets (horse), 136@150; Second and Third, 100@115; Thirteenth and Fifteenth, 70@79; Spruce and Pine, 49@50; Green and Coates, 90@105; Chestnut and Walnut, 94@95; Hestonville, —@—; Germantown, —@80; Union, 110@125; Lombard and South, 22@23; West Philadelphia, 105@110; People's 32@32; Continental, 104@105.

Baltimore.—Atlanta and Charlotte, 78; do. 1st, 111; Atlantic Coal, 1.35; Baltimore City 6s, 1890, 116; do. 6s, 1886, 110; do. 5s, 1916, 121; do. 5s, 1894, 115; do. 4s, 1920, 114; Canton Co. 6s, 106; Maryland Defense 6s, 105; Richmond and Allegany, 42; Richmond and Danville, 108; Virginia Peelers, 41; do. Peeler coupons, 21; Virginia Midland 2d mort., 108; do. 3d mort., 90; do. 4th mort., 50; do. 5th mort., 94; Wilmington, Columbia and Augusta, 100. The latest quotations are: Atlanta and Charlotte, 78@80; do. 1st, 110@111; Baltimore and Ohio, 130@200; do. 6s, 1885, 106@—; Baltimore City 6s, 1890, 116@118; do. 6s, 1893, —@117; do. 6s, 1902, 130@—; do. 1900, —@135; do. 5s, 1894, 115@116; do. 5s, 1916, 121@122; do. 4s, 1920, —@114; Columbia and Greenville 1st, 102@104; Central Ohio 1st, 107@108; Canton 6s, gold, 105@108; Chesapeake and Ohio Canal 6s, 41@—; George's Creek Coal, 99@105; Marietta and Cincinnati 1st, 123@124; do. 2d, 94@94; do. 3d, 47@47; Northern Central, 51@52; do. 6s, 1900, gold, 114@—; do. 6s, 1904, gold, 111@—; do. 6s, 1885, —@106; do. 5s, 1926, 99@100; Norfolk and Western pref., 54@56; Ohio and Mississippi, Springfield div. 1st, 117@118; Pittsburg and Connellsville 7s, 121@123; Richmond and Danville, 117@—; do. 1st, 1890, —@105; do. 1885, 101@103; Richmond and Allegany, 41@42; Virginia Midland 2d mort., 108@108; do. 3d, 90@91; do. 5th 94@95; Virginia consols., 81@81; do. consol. coupons, 94@94; do. 10-40s, 52@53; Western Maryland 1st guar., 115@118; do. 2d, guar. by Washington County, 110@—.

Bridging the Lachine Rapids.

MR. PETERSON'S staff are still hard at work among the eddies and currents adjacent to Isle Herron, which acts as a sort of wedge to the Lachine Rapids; and the more they see of it, the more feasible the scheme of the new bridge appears. There are not wanting among the railroad men and other citizens those who sneer at the proposition to bridge the St. Lawrence at that point; but if there is one reason more than another that commends itself, it is the ease with which a foundation can be rock-bolted to the almost iron-stone bed the rapids' rocks afford.

While on this subject it may not be uninteresting to look back twenty-seven years to the time when the Victoria Bridge of to-day was in process of survey. Instead of Mr. Peterson, it

was no less a personage than the then Robert Stephenson, M. P., who made the survey. From an old copy of the "Commercial Advertiser, Montreal, Friday, June 2, 1854, we take the following: "The report of Robert Stephenson, Esq., M. P., in reference to the proposed bridge across the St. Lawrence, has just been printed and circulated by the Directors of the Grand Trunk Railway. The report he presents is a very elaborate one, setting forth the difficulties that have to be met and the dangers to be encountered before a structure of sufficient strength and durability can be erected, but containing the assurance that, so far as human skill can see, there is nothing impossible in the undertaking, nor any difficulties but such as may be surmounted."—*Montreal Daily Witness.*

Mrs. James and the Snake Head.

WHEN Mrs. James, wife of the Postmaster-General, was a little girl, says the *Utica Herald*, she, with other companions, was walking on the track of the New York Central Railroad. Flat rails were used in those days, and in extremely hot weather, or when the spikes in the ends became loosened, the ends curled up, and frequently found their way through the floor of the cars and created consternation among the passengers. This gave the name of "snake heads," and railroad men dreaded them. Mrs. James, with the other little girls, saw a snake head on the track, and hurrying back to the station, informed Superintendent Priest, who thanked her, gave her a half a dollar, and sent a hand-car crew up the road to destroy the snake head by spiking it down.

In those days a half-dollar piece was as big as a car wheel to a child, and it is not strange that Mrs. James should remember it. When the Postmaster-General met Superintendent Priest on the train near Utica recently, Mrs. James laughingly informed him that he had paid her the first money she ever earned. The Superintendent brushed up his memory, and finally remembered how the little girl's face brightened as he rewarded her for an invaluable service to him and the railroad company.

A new arrangement, it is stated, has been made between the Central Pacific and the Union Pacific Companies. The Union Pacific is to continue giving the Central its business at Ogden as now, and also further agreeing not to carry its Ogden extension to Portland, but to stop at Baker City. The Central Pacific agrees not to build an independent line from Ogden to the Missouri River.

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RAILROAD EARNINGS—MONTHLY.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Burl. C. Rapids & Nor.:													
1880.....	184,316	165,170	188,325	141,652	149,504	153,375	143,432	160,160	179,804	204,991	189,330	193,068	2,053,13
1881.....	167,750	124,510	148,551	184,680	165,630	205,912	174,351	209,113	221,801	221,748	.....	.....	.....
Central Pacific:													
1879.....	1,059,165	1,056,691	1,280,272	1,406,600	1,579,591	1,443,088	1,458,833	1,556,457	1,649,430	1,809,022	1,488,142	1,335,870	17,153,163
1880.....	1,200,614	1,070,487	1,373,438	1,356,716	1,778,488	1,724,950	1,840,067	1,973,438	1,964,997	2,120,229	2,154,000	1,853,000	20,410,424
1881.....	1,603,907	1,400,000	1,643,000	1,874,000	2,068,000	2,063,000	1,859,000	2,059,000	2,293,000	2,514,000	.....	.....	.....
Chicago and Alton:													
1879.....	343,737	307,381	327,370	335,394	421,937	447,774	536,843	583,832	628,811	668,163	601,101	553,014	5,755,677
1880.....	534,054	497,013	626,473	542,961	616,129	617,524	708,906	761,120	767,349	785,199	696,776	543,723	7,687,226
1881.....	487,890	461,641	511,415	548,675	598,860	616,935	671,466	771,466	768,897	.....	.....	.....	.....
Chicago and Northwestern:													
1879.....	1,008,321	889,633	1,107,042	1,128,894	1,433,364	1,393,087	1,314,231	1,326,957	1,716,409	1,896,073	1,558,476	1,325,895	16,098,373
1880.....	1,154,632	1,131,683	1,361,725	1,294,573	1,875,608	1,666,432	1,699,686	1,767,900	2,020,200	2,105,217	1,820,600	1,490,323	19,423,684
1881.....	1,222,250	957,300	1,162,369	1,454,361	1,863,676	2,231,900	1,928,099	2,261,207	2,217,711	2,305,703	.....	.....	.....
Chicago, Burl. & Quincy:													
1879.....	1,105,098	982,377	1,071,738	1,018,755	1,171,303	1,160,968	993,823	1,315,559	1,484,316	1,709,932	1,327,679	1,438,167	14,779,715
1880.....	1,200,235	1,180,853	1,453,611	1,260,319	1,619,227	1,434,515	1,566,661	1,610,168	1,579,465	1,599,534	1,510,846	1,326,812	17,311,890
Chicago, Mil. & St. Paul:													
1880.....	764,398	733,749	900,675	871,041	1,135,000	1,037,958	1,026,708	991,297	1,257,677	1,493,620	1,473,620	1,426,000	13,114,810
1881.....	991,000	683,000	917,000	1,260,000	1,538,000	1,731,000	1,567,000	1,678,000	1,645,000	1,590,000	.....	.....	.....
Chicago, St. Paul, Minn. & Omaha:													
1880.....	105,405	92,044	134,134	259,208	232,146	218,093	236,995	251,013	300,833	345,047	.....	.....	.....
1881.....	128,555	101,965	166,999	253,677	309,794	404,241	364,680	367,397	355,182	606,708	.....	.....	.....
Cin. Ind. St. L. and Chicago:													
1880.....	155,697	172,541	198,220	168,199	188,995	200,332	204,138	233,478	242,627	.....	.....	.....	.....
1881.....	171,466	160,981	185,004	175,484	188,794	188,256	178,861	229,858	219,977	.....	.....	.....	.....
Clev., Col., Cin. & Ind.:													
1880.....	317,411	296,769	349,410	302,521	319,445	358,820	450,186	475,096	497,824	426,227	368,714	348,092	4,440,514
1881.....	299,903	271,176	344,602	347,098	338,423	398,914	380,134	417,109	410,965	.....	.....	.....	.....
Denver and Rio Grande:													
1880.....	124,759	126,922	160,883	164,882	193,925	295,455	373,132	400,133	406,583	473,318	408,563	349,196	3,478,067
1881.....	307,476	317,681	393,493	433,212	514,767	584,230	548,294	606,193	620,643	666,686	.....	.....	.....
Hannibal & St. Joseph:													
1880.....	176,079	166,965	216,061	206,735	191,317	179,396	224,312	228,081	233,448	240,359	204,116	257,241	2,537,954
1881.....	153,067	126,113	173,557	188,124	177,003	194,949	198,110	215,308	202,567	.....	.....	.....	.....
Houston and Texas Central:													
1880.....	319,041	272,791	237,745	247,807	188,120	195,329	227,679	289,360	409,367	478,099	432,475	443,165	3,740,998
1881.....	359,706	434,475	325,209	267,082	226,399	227,323	237,666	306,462	.....	.....	.....	.....	.....
Illinois Central:													
1880.....	95,212	613,806	613,008	535,732	665,120	681,736	724,095	732,755	806,836	680,211	783,120	673,181	8,304,812
1881.....	600,472	492,851	536,395	632,063	636,870	761,354	717,094	832,386	813,610	.....	.....	.....	.....
Indiana, Bloomington and Western:													
1880.....	80,498	89,960	116,185	90,375	85,733	106,953	103,438	116,732	110,622	121,343	96,921	104,619	1,223,079
1881.....	90,283	83,261	102,359	103,555	102,630	96,586	83,764	117,956	195,307	.....	.....	.....	.....
Louisville and Nashville:													
1880.....	674,455	578,035	612,593	563,883	655,014	976,229	772,537	827,088	931,910	1,000,326	953,086	949,184	9,491,345
1881.....	916,950	805,124	947,959	850,862	828,725	1,227,885	817,135	884,400	965,300	.....	.....	.....	.....
Mobile and Ohio:													
1880.....	250,116	204,094	168,301	140,091	129,249	121,855	131,631	140,593	184,246	264,714	251,368	287,373	2,373,623
1881.....	218,243	211,353	226,358	162,027	145,416	132,692	131,009	159,348	209,044	252,921	.....	.....	.....
Nashville, Chat. and St. L.:													
1880.....	205,633	191,154	169,457	155,466	158,839	144,155	151,594	169,326	167,473	178,466	182,087	175,996	2,049,448
1881.....	178,143	190,866	207,710	183,525	164,430	154,549	150,430	168,317	171,000	.....	.....	.....	.....
New York and New England:													
1880.....	164,233	149,907	183,845	179,689	183,701	219,891	205,056	249,885	230,709	215,491	210,856	198,108	2,396,302
1881.....	199,749	173,614	212,019	212,869	215,371	231,518	246,821	267,515	250,494	.....	.....	.....	.....
New York Central and Hudson River:													
1879.....	2,024,812	2,210,304	2,474,392	2,214,626	2,211,010	2,022,823	2,194,423	2,546,028	2,922,396	2,898,586	2,801,835	2,846,216	29,367,451
1880.....	2,593,613	2,317,231	2,854,835	2,782,324	2,540,997	2,653,477	2,873,316	3,032,854	3,000,627	3,095,198	3,047,541	2,833,403	33,615,416
1881.....	2,404,713	2,293,463	2,668,250	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
New York, Lake Erie & Western:													
1879.....	1,147,173	1,207,391	1,356,780	1,372,755	1,350,574	1,230,419	1,273,533	1,450,223	1,492,497	1,713,697	1,515,835	1,398,944	16,509,121
1880.....	1,296,381	1,252,218	1,644,958	1,643,151	1,592,544	1,661,812	1,580,976	1,606,574	1,786,417	1,899,910	1,799,338	1,726,78	19,491,367
1881.....	1,443,437	1,425,765	1,847,261	1,709,057	1,776,891	1,794,982	1,787,081	1,772,895	.....	.....	.....	.....	.....
Northern Central:													
1880.....	334,494	330,860	415,325	386,130	329,788	419,193	450,298	453,923	464,093	512,917	459,054	494,310	5,050,387
1881.....	386,157	382,657	452,906	487,173	465,688	497,287	440,811	493,008	429,565	.....	.....	.....	.....
Northern Pacific:													
1880.....	81,390	77,259	119,357	185,700	217,613	261,269	241,277	233,500	330,300	358,456	293,054	215,343	1,255,154
1881.....	109,805	79,976	143,835	214,755	299,880	368,276	404,180	411,624	490,090	565,485	.....	.....	.....
Philadelphia and Erie:													
1880.....	224,307	245,372	327,678	334,947	311,470	331,024	308,699	347,532	322,737	.....	.....	.....	.....
1881.....	224,303	225,561	285,573	293,323	343,742	350,585	291,669	303,849	276,523	.....	.....	.....	.....
Philadelphia and Reading:													
1879.....	900,482	825,154	869,569	989,034	1,144,051	1,179,140	1,147,767	1,305,414	1,197,162	1,409,028	1,308,658	1,325,780	13,621,239
1880.....	1,239,177	1,016,278	1,404,878	1,328,661	1,307,148	1,286,163	1,169,874	1,415,834	1,877,073	1,563,794	.....	.....	.....
St. Louis and San Francisco:													
1880.....	195,695	199,644	197,470	174,503	175,864	173,148	213,955	267,319	277,817	228,194	290,329	226,063	2,698,371
1881.....	212,435	178,234	262,050	265,298	283,399	260,254	252,333	286,373	279,064	.....	.....	.....	.....
St. Louis, Alton and Terre Haute:													
1880.....	153,139	163,737	168,994	155,463	147,928	150,207	191,077	216,759	204,295	221,863	188,773	184,503	2,146,741
1881.....	169,458	170,418	204,009	194,776	163,285	165,896	158,674	179,295	187,299	.....	.....	.....	.....
St. Louis, I. Mt. & South'n:													
1880.....	555,983	490,195	451,560	408,241	349,053	353,474	442,555	565,669	671,219	678,200	626,725	655,100	6,258,41
1881.....	570,967	560,791	692,023	535,042	480,300	468,400	517,340	622,529	690,400	.....	.....	.....	.....
St. Paul, Minn. and Man:													
1880.....	180,239	137,645	261,798	333,014	281,599	243,407	272,089	252,579	274,188	345,057	300,675	297,640	3,157,744
1881.....	254,187	159,482	320,962	425,685	382,642	408,322	387,488	414,954	485,736	605,708



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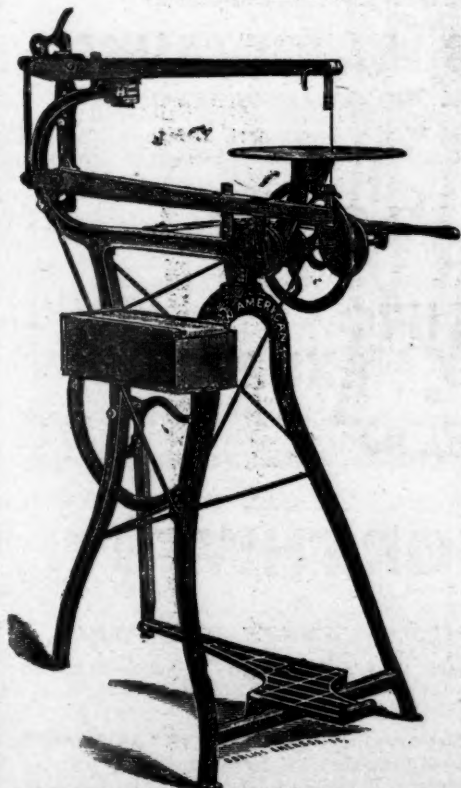
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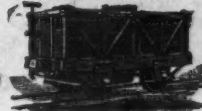
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